

CHAPTER 6  
ENERGY BANK PROGRAM

**565—6.1(473) General.** The energy bank program is established for public school, merged area school, area education agency, city, county and other political subdivision buildings and facilities to reduce energy consumption and energy costs. This program is established under Iowa Code sections 473.13A, 473.19 and 473.20 and follows the guidelines of 10 CFR 420 (1976).

Public schools, merged area schools, area education agencies, cities, counties and other political subdivisions of the state are required to identify and implement through energy audits and comprehensive engineering analyses all energy management improvements for which financing is made available to the entity.

The program will be administered by the energy and geological resources division of the Iowa department of natural resources.

The program will be carried out by:

1. Conducting energy audits as needed on buildings and facilities owned or leased by the local government; conducting energy audits every five years on buildings and facilities owned or leased by a school;
2. Implementing operation and maintenance procedures;
3. Conducting comprehensive analyses as needed to identify energy management improvements;
4. Establishing an energy bank and energy loan program;
5. Funding cost-effective energy management improvements;
6. Establishing energy accounting procedures; and
7. Providing for appeals and reporting measures.

**6.1(1) Purpose and scope.** This chapter establishes requirements for eligibility, and procedures for conducting an energy audit, conducting a comprehensive engineering analysis, establishing an energy bank, establishing a loan program, funding energy management improvements and providing appeals and enforcement measures.

**6.1(2) Definitions.** For the purpose of these rules:

“*Analyst*” means a registered professional engineer or architect in the state of Iowa.

“*Average simple payback period*” means the total estimated cost of all energy management improvements in a building or facility divided by the total estimated annual energy cost savings.

“*Btu*” means British thermal unit, a unit of heat measurement.

“*Building*” means any structure that is heated, cooled or lighted.

“*Comprehensive engineering analysis*” means the thorough examination and written report of a building or facility, conducted to identify energy management opportunities with estimated cost of the measures broken down by design, materials and installation costs, estimated annual cost savings by fuel type and calculated simple payback period. Said analysis shall be signed and certified by an analyst, employed by a firm on the list of qualified engineering/architectural firms, maintained by the department and updated periodically.

“*Department*” means the department of natural resources.

“*Energy accounting system*” means a computerized or manual mechanism that allows schools and local governments to track at a minimum monthly energy consumption by unit and cost per square foot and Btu’s per square foot per degree day.

“*Energy audit*” means an energy survey of a building that is conducted by means of a walk-through during a visit to the building or facility in accordance with requirements of rule 6.3(473).

“*Energy management improvement*” means construction, rehabilitation, acquisition or modification of an installation in a building or facility, which is intended to reduce energy consumption or energy source, which may contain integral control and measurement devices.

“*Energy management technicians*” means paraprofessionals, approved by the department, trained and qualified in energy auditing and identifying energy management improvements.

“*Facility*” means any structure, system or processing site that consumes energy to carry out a function or service of the local government, including motor vehicles and other energy consuming machinery.

“*Local government*” means any city, county, municipality or any other political subdivision of the state of Iowa.

“*Municipality*” means any city, county, local government or any other political subdivision of the state of Iowa.

“*School*” means any public school district, area education agency, or merged area school (public community colleges and vocational/technical schools) which is defined by the department of education administrative rules in 281—Chapter 1.

“*Simple payback period*” means the estimated total cost of each measure including, but not limited to, design, materials and installation divided by the estimated annual savings for the measure. For renewable and coal conversions, savings are based on the fuel replaced.

“*Square feet*” means the total gross conditioned floor area of a building or facility.

**565—6.2(473) Applicability.** The requirements of this chapter apply to all buildings and facilities owned or leased by a school or local government.

**6.2(1) *Applicability for energy audit.*** An energy audit is required for all buildings and facilities that are a part of a school or local government and meet the criteria identified in rule 6.3(473).

**6.2(2) *Applicability for comprehensive engineering analysis.*** A comprehensive engineering analysis is required for all buildings and facilities for which (a) an energy audit has been prepared, or (b) the department has recommended as having potential for installation of energy management improvements, and (c) the criteria identified in rule 6.4(473) have been met.

**6.2(3) *Applicability for energy bank.*** The energy bank is applicable to all buildings and facilities for which:

*a.* The school or local government provides a comprehensive engineering analysis and summary of recommended energy management improvements approved by the department, a schedule for implementation of existing and new operation and maintenance procedures; or the school or local government provides an energy audit and summary or recommended energy management improvements approved by the department for a building or facility not meeting the criteria identified in rule 6.4(473).

*b.* Energy management improvements have been recommended by the department.

*c.* The school or local government has no formal plan adopted by its own governing body, including any formal plans which are subject to the occurrence of any conditions precedent, to close or otherwise dispose of the building or facility within the average simple payback period for which funding is requested.

**565—6.3(473) Energy audits.**

**6.3(1) *Objective.*** The purpose is to conduct an initial energy survey of a building or facility to identify operation and maintenance procedures and scheduled implementation, identify energy management improvements and establish a basis for proceeding with the comprehensive engineering analysis.

**6.3(2) *Qualified auditors.*** Energy audits shall be conducted by any of the following:

*a.* An energy management technician, member of staff of a utility;

*b.* An energy management technician, member of staff of a firm from the department’s list of qualified firms;

*c.* A professional engineer registered in the state of Iowa;

*d.* An architect registered in the state of Iowa;

*e.* A person, firm or certified energy manager as approved by the department.

**6.3(3) Contents of an energy audit.** The energy audit will be completed on forms prescribed or approved by the department and will include, but not be limited to, the following information:

- a. Executive summary;
- b. Most recently completed fiscal year's energy consumption data on a monthly basis by units and costs;
- c. Occupancy schedule by number of occupants, days and weeks;
- d. Building features/conditions/identification;
- e. Heating and cooling systems;
- f. Air/hydronic distribution system;
- g. Domestic hot water systems;
- h. Control systems;
- i. Lighting systems;
- j. Electrical systems;
- k. Other systems;
- l. Operation and maintenance procedures and schedule; and
- m. Energy management improvements.

**6.3(4) Exemption.** The required subsequent energy audits may be waived by the department if a school or local government administrator submits a written request for an exemption to the department. A response will be made within 30 days.

#### **565—6.4(473) Comprehensive engineering analysis.**

**6.4(1) Objective.** The objective of the comprehensive engineering analysis is to perform a comprehensive examination and written report to identify and analyze opportunities for energy management improvements with estimates of cost and annual cost savings and add additional operation and maintenance procedures.

**6.4(2) Comprehensive engineering analysis required.** Comprehensive engineering analyses shall be required for all buildings or facilities recommended by the department as follows:

- a. Energy management improvements recommended by an energy audit for the building or facility which have an aggregate cost of \$15,000 or more.
- b. Energy management improvements recommended by an energy audit for the building or facility which have an aggregate cost of less than \$15,000, which involve complex energy management improvements such as heating, ventilation and air conditioning.
- c. Buildings or facilities recommended by the department in accordance with the following criteria:
  - (1) Annual Btu consumption per square foot, compared with statewide averages for building or facility types as determined by the department on a periodic basis;
  - (2) Type or nature of audit-recommended improvements;
  - (3) Audit—"vetoed" improvements versus fuel costs;
  - (4) Total cost of audit-recommended improvements;
  - (5) Total million Btu and dollar savings potential.

#### **6.4(3) Procedures.**

a. To initiate the comprehensive engineering analysis, the school or local government shall select and contract with an analyst qualified to perform the comprehensive engineering analysis. Requests for proposal shall be sent by the school or local government to all firms on the qualified list maintained by the department. The department may modify requirements in the procurement of the firm consistent with applicable state and federal regulations. Following accepted practices, the school or local government will select the qualified firm that best meets its needs.

b. Schools and local governments shall identify the need for a comprehensive engineering analysis.

c. Upon request of the school or local government, the department may allow the school or local government to undertake the completion of comprehensive engineering analyses of all of its buildings or facilities in phases or stages.

d. Upon completion and receipt by the school or local government of the comprehensive engineering analysis, a copy is to be submitted by the school or local government to the department.

The department will review the comprehensive engineering analysis and notify the school or local government of any technical concerns that should be discussed and resolved by the school or local government and the analyst.

The department will approve or reject the comprehensive engineering analysis based on its compliance with the department's Technical Analysis Guidelines which is periodically updated by the department.

**6.4(4)** *Contents of a comprehensive engineering analysis.*

a. The comprehensive engineering analysis shall include the information in rule 565—8.2(473) and Technical Analysis Guidelines as adopted by the department.

b. The comprehensive engineering analysis shall include a detailed engineering analysis which identifies the estimated cost of, and the energy and cost savings likely to be realized from, implementing each identified energy management operation and maintenance procedure. The comprehensive engineering analysis shall also identify the estimated cost of, and the energy and cost savings likely to be realized from, acquiring each and installing each energy management improvement, including renewable resource measures, that indicate a significant potential for saving energy.

c. The comprehensive engineering analysis report shall include information as follows:

(1) A description of the building or facility characteristics and energy data including the results of the energy audit of the building or facility, the operating characteristics of energy-using systems, and the estimated remaining useful life of the building or facility;

(2) The estimated energy consumption of the building or facility by fuel type (in total Btu's and Btu's per square foot per year), and optimal efficiency (assuming implementation of all operation and maintenance procedures);

(3) An evaluation of the building's or facility's potential for renewable resource conversion, including water heating systems;

(4) A listing of any known local zoning ordinances and building codes which may restrict the installation of renewable resource systems;

(5) A description and analysis of all recommended energy management improvements, setting forth:

1. A description of each recommended energy management improvement;

2. An estimate of the cost of design;

3. An estimate of the cost of acquisition and installation of each energy management improvement;

4. An estimate of the useful life of each energy management improvement;

5. An estimate of increases or decreases in operations and maintenance that would result from each energy management improvement;

6. An estimate of the salvage value or disposal cost of each energy management improvement at the end of its useful life, if any;

7. An estimate of the annual energy and energy cost savings (using current energy prices) expected from the acquisition and installation of each energy management improvement.

(6) In calculation of the potential energy cost savings of each recommended energy management improvement, the analyst shall:

1. Assume that all energy savings obtained from the energy management operation and maintenance procedures have been realized;

2. Calculate the total energy and energy cost savings by fuel type expected to result from the acquisition and installation of all recommended energy management improvements, taking into account the interaction among the various measures;

3. Calculate that portion of the total energy and energy cost as determined above, attributable to each individual energy management improvement.

(7) A listing of energy use and cost data for each fuel type used for the most current 12-month period ending June 30 will be determined. All applications will use conversion factors when calculating Btu content of fuels as stated in the Technical Analysis Guidelines as adopted by the department.

(8) Additional items will be considered that save money as a direct result of energy modification.

**6.4(5) Exemptions.** The required comprehensive engineering analysis may be waived by the department if the school or local government has a formal plan adopted by the governing body, including any plan which is not subject to the occurrence of any conditions precedent, to close or otherwise dispose of the building or facility within the simple average payback period for energy management improvements contained in the building's or facility's energy audit.

**6.4(6) Analyst firms retained.** Qualified analyst firms shall be retained by the school or local government to perform the professional services required for each comprehensive engineering analysis. Qualification standards and procedures for analyst firms have been adopted by the department and are available upon request.

### **565—6.5(473) Installation of energy management improvements.**

**6.5(1) Objective.** Energy management improvements are to be installed in all buildings and facilities for which the schools or local governments aggregate payback is six years.

**6.5(2) Installation of energy management improvements required.** Installation of energy management improvements shall be required for buildings and facilities as follows:

*a.* Energy management improvements recommended by the comprehensive engineering analysis which have an aggregate payback of six years.

*b.* Upon request of the school or local government, the department may allow the school or local government to undertake the installation of energy management improvements in phases or stages. The school or local government shall submit an implementation schedule for the department's approval.

**6.5(3) Procedures.**

*a.* Plans and specifications shall be prepared for selected energy management improvements by a qualified engineer selected by the school or local government.

*b.* Bidding, award and installation of energy management improvements shall be accomplished in accordance with applicable state law.

*c.* Installation of energy management improvements shall be completed in a building or facility within 24 months of the review of the comprehensive engineering analysis and approval of the recommended energy management improvements by the department.

*d.* Upon completion of the installation of each energy management improvement, the school or local government shall submit to the department:

(1) A certificate of completion which describes the improvement and its location and cost, certifies that the installation was in accordance with recommendations of the comprehensive engineering analysis, and certifies that the improvement is operating properly.

(2) A copy of the final "as built" plans and specifications.

### **565—6.6(473) Energy bank funding and fees.**

**6.6(1) Objective.** The energy bank is established to provide direct funding, grants, loans, leases and alternative financing for conducting energy audits, comprehensive engineering analyses and implementing energy management improvements.

**6.6(2) Funding and financing sources.**

a. Funding for this program may be from gifts, federal grants, state appropriations and other sources.

b. Financing for the program may be provided by private sources as arranged by the department.

c. Costs of the comprehensive engineering analysis may be included in financing for the installation of energy management improvements.

**6.6(3) *Funding for energy audits and comprehensive engineering analysis.***

a. Six-month interest-free loans, as funds are available, will be provided by the department to the school or local government upon request to pay the professional audit and engineering fees for the energy audits and comprehensive engineering analysis.

b. Costs of the energy audit and comprehensive engineering analysis may be included in financing for the installation of energy management improvements provided that within a six-month period of the approval of the comprehensive engineering analysis the school or local government proceeds to implement energy management improvements.

c. The energy loan program is established in the office of the treasurer of the state to be administered by the energy and geological resources division, department of natural resources, for the purpose of making loans to schools and local governments to complete comprehensive engineering analyses. Funding for this program may come from gifts, federal funds, state appropriations, and other sources.

**6.6(4) *Funding for energy management improvements.***

a. Financing is available for all energy management improvements identified in energy audits and comprehensive engineering analyses.

b. Energy management improvement financing shall be supported by, but not limited to, payments from energy savings resulting from the energy management improvements.

**6.6(5) *Program service fee.*** The school or local government shall pay a program service fee to the department within six months of completion of the energy audit or comprehensive engineering analysis, based upon a sliding scale related to the total square footage of each building in the program, the total annual cost of utilities of each water and wastewater treatment facility, or on a case-by-case basis as agreed upon in advance by the school or local government and the department in accordance with the schedule adopted by the department.

**565—6.7(473) Energy accounting system.**

**6.7(1) *Objective.*** Energy accounting procedures are established for the purpose of:

a. Developing information for comparative and management review of energy and dollar consumption for the school or local government and on a statewide basis to assist the school or local government and the department to accomplish the goals of the energy bank program.

b. Comparing school and local government energy consumption and energy cost before and after energy management improvements have been installed in buildings or facilities to confirm energy and cost savings.

**6.7(2) *Energy accounting system participation.*** The energy accounting system established by the school or local government shall be in accord with requirements established by the department.

**6.7(3) *Procedures.***

a. The energy accounting system will be initiated by the department by notifying selected schools or local governments. Instructions and guidelines will be provided by the department for participation.

b. Copies of previous and future monthly utility bills and other related information will be provided by the school or local government, upon request of the department, to:

(1) Establish energy consumption levels and energy costs prior to the installation of energy management improvements;

(2) Establish the current and future level of savings in energy consumption and costs after the installation of energy management improvements.

c. Reports will be developed, printed and distributed under the department's direction on a periodic basis.

**565—6.8(473) Appeals and reporting measures.**

**6.8(1) Scope and applicability.**

a. This rule provides procedures governing appeals from administrative orders to school and local governments concerning requirements of the energy bank program.

b. Rules of Iowa Administrative Code 561—Chapter 7, “Rules of Practice in Contested Cases,” shall govern appeals to the department.

**6.8(2) Procedures.**

a. Appeal procedures shall be in accord with Iowa Administrative Code 561—Chapter 7, “Rules of Practice in Contested Cases,” governing appeal of administrative orders of the department of natural resources.

b. Any school or local government appealing an action of the department shall file a written notice of appeal within 30 days of the receipt of the department's action. Written notice of appeal shall contain information explaining why the appeal is being made.

These rules are intended to implement Iowa Code sections 473.13A, 473.19 and 473.20 and 10 CFR 420 (1976).

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